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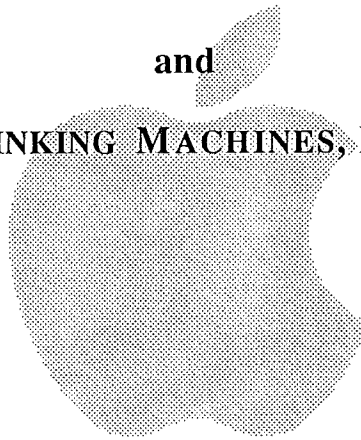
RESEARCH AGREEMENT

between

APPLE COMPUTER, INC.

and

THINKING MACHINES, INC.



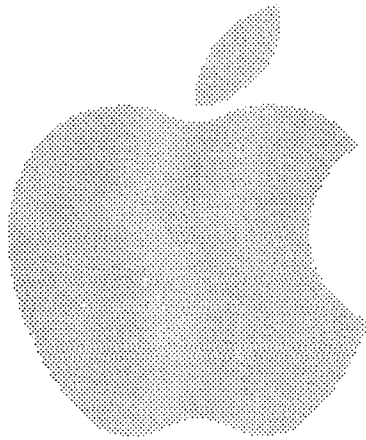
Apple Computer, Inc.

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Apple Computer, Inc.

WAIS PROJECT RESEARCH & DEVELOPMENT AGREEMENT

This Research & Development Agreement (the "Agreement") is entered into and is effective as of November 16, 1989 (the "Effective Date") by and between **Apple Computer, Inc.**, a California corporation having its principal place of business at 20525 Mariani Avenue, Cupertino, California 95014 ("Apple"), and **Thinking Machines, Inc.**, a Delaware corporation having its principal place of business at 245 First Street, Cambridge, MA 02142 ("Thinking Machines").

CONFIDENTIAL RECITALS

Apple is a manufacturer and supplier of computer and networking hardware and software.

Thinking Machines is a supplier of high performance information servers.

Apple and Thinking Machines wish to research, develop and investigate standards and applications for wide area information servers ("WAIS").

Apple and Thinking Machines wish to formalize their respective rights and obligations with respect to such research and development in this Agreement.

AGREEMENT

1. DEFINITIONS

1.1 "WAIS Project" shall mean the separate and joint development and research of WAIS (Wide Area Information Systems) utilizing Apple computer hardware and software, Thinking Machines Connection Machines and software, and jointly-developed hardware, software, specifications and protocols, as more fully set forth in this Agreement, the Project Plan and the Exhibits.

1.2 "Project Plan" shall mean the schedule for completion of the parties' respective and joint obligations under the WAIS Project, as set forth in Exhibit A.

1.3 "Products" shall mean Apple Products, Thinking Machines Products and Joint Products, as more fully described in Exhibits C, D and B respectively.

DLW 1.4 "Confidential Information" shall mean (i) any information relating to sensitive or confidential data of the other party, including but not limited to the other party's product designs, product costs, product prices, product names, finances, marketing plans, business opportunities, personnel, research, development or know-how, (ii) for Apple, the Apple Products and any Inventions relating thereto; (iii) for Thinking Machines, the Thinking Machines Products and any Inventions relating thereto; (iv) the terms, conditions and existence of this Agreement, and (v) any other information which a party designates as "confidential" in writing or, if disclosed and so designated orally, is confirmed in writing by the disclosing party as confidential within thirty (30) days of such oral disclosure; provided, however, that Confidential Information shall not include any information that: (i) is or hereafter becomes known to the general public without fault or breach on the part of the party seeking to use or disclose it; (ii) is disclosed by a third party to the

- receiving party without breach of a nondisclosure obligation and without restriction on disclosure; (iii) is disclosed by the disclosing party to third parties without restriction on disclosure; or (iv) is developed independently by the receiving party.
- 1.5 "Apple Products" shall mean proprietary Apple hardware and software products developed or modified by Apple for the WAIS Project, including all data, information, reports, specifications, tapes, programs, source code, object code, documentation, diagrams, flow charts and any other tangible materials, as more fully described in Exhibit C.
- 1.6 "Thinking Machines Products" shall mean Thinking Machines Connection Machine and other hardware and software products, including software for Apple's Macintosh Computer, developed or modified by Thinking Machines for the WAIS Project, including all data, information, reports, specifications, tapes, programs, source code, object code, documentation, diagrams, flow charts and any other tangible materials, as more fully described in Exhibit D.
- 1.7 "Connection Machine" shall mean Thinking Machines high performance information servers for use with WAIS.
- 1.8 "Joint Products" shall mean that hardware, software, specifications and protocols jointly developed by the parties which are not Apple Products or Thinking Machines Products, as more fully described in Exhibit B.
- 1.9 "Joint Activities" shall mean the Concept Trial and the research and development of the Joint Products, as more fully described in the Project Plan.
- 1.10 "Concept Trial" shall mean Customer Site Prototype and Demonstration, as more fully described in Exhibit E.
- 1.11 "Loaned Equipment" shall mean that hardware, software and support, if any, loaned by one party to the other under this Agreement, as more fully described in Exhibit F.
- 1.12 "Inventions" shall mean all ideas, creations, works, processes, designs and methods created with respect to the Apple Products, Apple Confidential Information, Thinking Machines Products, Thinking Machines Confidential Information, and the Joint Products (collectively, the "Technology"), and all documentation associated therewith, consisting of: (i) for copyrightable or copyrighted material in the Technology, any translation, abridgement, revision or other form in which an existing work may be recast, transformed or adapted, including, but not limited to, modifications, corrections, improvements, enhancements and porting to other computer platforms or languages; (ii) for patentable or patented material in the Technology, any adaptation, subset, addition, improvement or combination; and (iii) for material which is protected by trade secret in the Technology, any new material derived from such existing trade secret material, including new material which may be protected by copyright, patent and/or trade secret.

2. SCOPE OF WAIS PROJECT

2.1 WAIS Project Goals. The parties intend that their joint efforts will result in specific protocols, products, services and applications for WAIS. In particular, the parties seek to:

- (a) Publicly demonstrate the use of the Macintosh® personal computer to access, filter and organize information offered from powerful information servers;
- (b) Develop prototype, standard protocols between Apple clients and Thinking Machines servers;
- (c) Develop an example user interface which demonstrates access of both local and remote information through a single user model; and
- (d) Test the principle of distributing information processing control across agents on different vendors' equipment.

Both parties acknowledge that while Products for the Test Market may result from the WAIS Project, the goal of the WAIS Project is not necessarily to create nor market Products. In particular, Apple's goal is to research, develop and test hardware and software tools which enable the Macintosh® family of computers to work productively within a WAIS.

2.2 WAIS Project Responsibilities.

- (a) Apple. As set forth in the Project Plan, Apple will undertake to design, specify, develop, test and/or implement certain hardware and software utilized by its Macintosh® family of computers to complete the WAIS Project.
- (b) Thinking Machines. As set forth in the Project Plan, Thinking Machines will undertake to design, specify, develop, test, implement and/or operate a network and network system software which will support hardware and software, including operating system and application software, for Apple's Macintosh® family of computers.
- (c) Jointly. As set forth in the Project Plan, Apple and Thinking Machines will jointly undertake:
 - (i) to use diligent efforts to complete the Joint Activities;
 - (ii) to assist the other party with reasonable engineering support and local facilities, at no charge, in furtherance of such other party's efforts to complete the WAIS Project;
 - (iii) to provide and/or license the other party, as set forth in Section 6, with appropriate working prototypes or copies, including documentation, of respective Products or Joint Products; and
 - (iv) to provide the other party with Loaned Equipment to support such other party's efforts to complete the WAIS Project.

- 2.3 Brewster Kahle. Thinking Machines' employee Brewster Kahle shall work full time on the WAIS Project at Apple's site. Apple shall provide Brewster Kahle with office space, including telephone and clerical support, access to and use of Macintosh® and other equipment normally accorded Apple's contractors, and Macintosh programming information. All other costs and expenses of Brewster Kahle, including but not limited to salary, relocation, living and accommodation expenses, shall be borne solely by Thinking Machines.
- 2.4 Completion of Project. The WAIS Project shall be considered complete upon completion of the Concept Trial.

3. TERM

This Agreement shall commence as of the Effective Date and shall continue in effect until completion of the WAIS Project unless earlier terminated as provided in this Agreement.

4. EXPENSES

- 4.1 Research and Development Costs. Except as otherwise provided in this Agreement, each party will be responsible for bearing its own costs and expenses, including travel and accommodation expenses, incurred in connection with performing their respective obligations under the WAIS Project.
- 4.2 Connection Machine Access. Thinking Machines shall, at no cost to Apple, provide Apple and/or Brewster Kahle access to a Connection Machine for the duration of the WAIS Project.
- 4.3 Concept Trial. All costs and expenses with respect to the Concept Trial will be borne by the parties as set forth in Exhibit E.

5. OWNERSHIP

- 5.1 Apple Products. Apple shall own, and Thinking Machines hereby assigns, all right, title and interest, including all patent, copyright, trade secret or other proprietary rights, in and to the Apple Products, including all Inventions relating to Apple Products.
- 5.2 Thinking Machines Products. Thinking Machines shall own, and Apple hereby assigns, all right, title and interest, including all patent, copyright, trade secret or other proprietary rights, in and to the Thinking Machines Products, including all Inventions relating to Thinking Machines Products.
- 5.3 Joint Products. Each party shall have an undivided, co-ownership interest in and to the Joint Products, including all Inventions relating to Joint Products as described in exhibit B, and any Apple Products developed by Brewster Kahle during the course of this project. Each party shall have the right to make, use and sell products embodying the Joint Products or Inventions relating thereto, without any duty to account to the other for any proceeds or profits therefrom.
- 5.4 Assistance. During and subsequent to the term of this Agreement, at the other party's request and expense, each party will document the assignment to the other

party of the rights set forth in this Section 5 with respect to the other party's Products, the Joint Products and related Inventions, and assist the other party and its nominees in every proper way to secure, maintain and defend for the other party's benefit all such rights. Apple and Thinking Machines will require their respective employees to sign appropriate Invention assignment and confidentiality agreements to carry out the purpose and intent of this Agreement.

6. CROSS-LICENSING

- 6.1 **Apple Products.** Apple hereby grants to Thinking Machines for the term of this Agreement a non-exclusive, royalty-free right and license to use and duplicate Apple Products, and any Inventions, solely for purposes of Thinking Machines's completion of its obligations under the WAIS Project. Upon completion of the WAIS Project, Apple hereby grants to Thinking Machines, for a period of five (5) years, a world-wide, non-exclusive, non-transferable, royalty-free right and license to use up to five (5) copies of the Apple Products solely for purposes of demonstrating such Apple Products with Thinking Machines Products or other Thinking Machines hardware and software.
- 6.2 **Thinking Machines Products.** Thinking Machines hereby grants to Apple for the term of this Agreement a non-exclusive, royalty-free right and license to use and duplicate Thinking Machines Products, and any associated Inventions, solely for purposes of Apple's completion of its obligations under the WAIS Project.

7. CONFIDENTIAL INFORMATION

Each party will protect the other's Confidential Information from unauthorized dissemination and use with the same degree of care that each such party uses to protect its own like information. Neither party will use the other's Confidential Information for purposes other than those necessary to directly further the purposes of this Agreement. Neither party will disclose to third parties the other's Confidential Information without the prior written consent of the other party.

8. INDEPENDENT DEVELOPMENT

The parties expressly agree that the obligations and work contemplated by this Agreement shall not restrict either party from undertaking similar or related activities with third parties in the area of information processing or otherwise.

9. NO SUBCONTRACTORS

Neither party shall, without the other's prior written consent, contract with subcontractors in order to perform any of its obligations under this Agreement.

10. DISCLAIMER OF WARRANTIES

NEITHER PARTY MAKES ANY WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARISING FROM COURSE OF PERFORMANCE,

COURSE OF DEALING OR USAGE OF TRADE, WITH RESPECT TO ANY
PRODUCTS PROVIDED UNDER THIS AGREEMENT.

11. INDEMNITY

11.1 Proprietary Rights Indemnity.

- (a) Thinking Machines shall, at its expense and at Apple's request, defend any claim or action brought against Apple, and Apple's subsidiaries, affiliates, directors, officers, employees, agents and independent contractors, to the extent it is based on a claim that the Thinking Machines Products provided to or used by Apple under this Agreement infringes or violates any patent, copyright, trademark, trade secret or other proprietary right of a third party, and Thinking Machines shall indemnify and hold Apple harmless from and against any costs, damages and fees reasonably incurred by Apple, including but not limited to fees of attorneys and other professionals, that are attributable to such claim; provided that: (i) Apple gives Thinking Machines reasonably prompt notice in writing of any such suit and permits Thinking Machines, through counsel of its choice, to answer the charge of infringement and defend such claim or suit; (ii) Apple provides Thinking Machines information, assistance and authority, at Thinking Machines's expense, to enable Thinking Machines to defend such suit; and (iii) Thinking Machines shall not be responsible for any settlement made by Apple without Thinking Machines's written permission. In the event Thinking Machines agrees to settle the suit, Thinking Machines agrees not to publicize the settlement nor to permit the party claiming infringement to publicize the settlement without first obtaining Apple's written permission.
- (b) Thinking Machines shall have no liability under this Section 11 for any claim or suit where such claim or suit would have been avoided but for the combination, operation, or use of the Thinking Machines Products with devices, parts, or software not supplied by Thinking Machines.
- (c) Apple shall, at its expense and at Thinking Machines's request, defend any claim or action brought against Thinking Machines, and Thinking Machines's subsidiaries, affiliates, directors, officers, employees, agents and independent contractors, to the extent it is based on a claim that the Apple Products provided to or used by Thinking Machines under this Agreement infringes or violates any patent, copyright, trademark, trade secret or other proprietary right of a third party, and Apple shall indemnify and hold Thinking Machines harmless from and against any costs, damages and fees reasonably incurred by Thinking Machines, including but not limited to fees of attorneys and other professionals, that are attributable to such claim; provided that: (i) Thinking Machines gives Apple reasonably prompt notice in writing of any such suit and permits Apple, through counsel of its choice, to answer the charge of infringement and defend such claim or suit; (ii) Thinking Machines provides Apple information, assistance and authority, at Apple's expense, to enable Apple to defend such suit; and (iii) Apple shall not be responsible for any settlement made by Thinking Machines without Apple's written permission. In the event Apple agrees to settle the suit, Apple agrees not to publicize the settlement nor to permit the party claiming infringement to publicize the settlement without first obtaining Thinking Machines's written permission.

- (d) Apple shall have no liability under this Section 11 for any claim or suit where such claim or suit would have been avoided but for the combination, operation, or use of the Apple Products with devices, parts, or software not supplied by Apple.

11.2 General Indemnity. Each party shall, at its expense, indemnify, hold harmless and, at the other party's request, defend the other party, and the other party's subsidiaries, affiliates, directors, officers, employees, agents and independent contractors, from and against any and all loss, cost, liability or expense (including costs and reasonable fees of attorneys and other professionals) arising out of or in connection with the indemnifying party's performance under this Agreement to the extent caused by, in whole or in part, any negligent act or omission or willful misconduct of the indemnifying party or the indemnifying party's employees, agents or independent contractors, including but not limited to any act or omission that contributes to: (i) any personal injury, sickness, disease or death; (ii) any damage to or destruction of property of the other party or any loss of use resulting therefrom; or (iii) any violation of any statute, ordinance or regulation.

12. LIMITATION OF LIABILITY

REGARDLESS WHETHER ANY REMEDY SET FORTH HEREIN FAILS TO ACHIEVE ITS ESSENTIAL PURPOSE, IN NO EVENT WILL EITHER PARTY BE LIABLE TO THE OTHER FOR INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES, EVEN IF THAT PARTY HAD BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

13. TERM AND TERMINATION

13.1 Termination for Convenience. Either party may terminate this Agreement for its convenience at any time prior completion of the Project, for any reason or for no reason by giving the other party sixty (60) days, advance, written notice of termination; provided, however, that Apple may terminate this Agreement immediately should Brewster Kahle either quit working on the WAIS Project or terminate his employment with Thinking Machines.

13.2 Termination for Cause By Either Party. Either party will have the right to terminate this Agreement immediately upon written notice at any time if:

- (a) The other party is in material breach of any warranty, term, condition or covenant of this Agreement other than those contained in Section 7 and fails to cure that breach within thirty (30) days after written notice of that breach and of the first party's intention to terminate;
- (b) The other party is in material breach of any warranty, term, condition or covenant of Section 7; or
- (c) The other party: (i) becomes insolvent; (ii) fails to pay its debts or perform its obligations in the ordinary course of business as they mature; (iii) admits in writing its insolvency or inability to pay its debts or perform its obligations as they mature; or (iv) makes an assignment for the benefit of creditors.

- 13.3 Effect of Termination. Upon any termination of this Agreement, each party will be released from all obligations and liabilities to the other occurring or arising after the date of such termination, except that any termination of this Agreement will not relieve either party of its obligations under Sections 4, 5, 6, 7 and 11 hereof, nor will any such termination relieve either party from any liability arising from any breach of this Agreement. Neither party will be liable to the other for damages of any sort solely as a result of terminating this Agreement in accordance with its terms. Termination of this Agreement will be without prejudice to any other right or remedy of either party.

14. GENERAL

- 14.1 Force Majeure. Neither party shall be liable for any failure or delay in its performance under this Agreement due to causes, including, but not limited to, acts of God, acts of civil or military authority, fires, epidemics, floods, earthquakes, riots, wars, sabotage, labor shortages or disputes, and governmental actions, which are beyond its reasonable control; provided that the delayed party: (i) gives the other party written notice of such cause promptly, and in any event within fifteen (15) days of discovery thereof; and (ii) uses its reasonable efforts to correct such failure or delay in its performance. The delayed party's time for performance or cure under this Section 14.1 shall be extended for a period equal to the duration of the cause or sixty (60) days, whichever is less.
- 14.2 Relationship of Parties. Though the parties are engaging in joint research, neither party nor its employees, consultants, contractors or agents are agents, employees or joint venturers of the other party, nor do they have any authority to bind the other party by contract or otherwise to any obligation. They will not represent to the contrary, either expressly, implicitly, by appearance or otherwise.
- 14.3 Personnel. Thinking Machines's employees, consultants, contractors and agents will observe the working hours, working rules and holiday schedule of Apple while working on Apple's premises. Apple reserves the right to request the replacement of any Thinking Machines personnel assigned to perform the Services. If Apple exercises this right, Thinking Machines will replace the disapproved personnel as soon as is reasonably possible.
- 14.4 Employment Taxes and Benefits. It will be Thinking Machines's obligation to report as income all compensation received by Thinking Machines pursuant to this Agreement and pay all taxes due on such compensation. Thinking Machines will indemnify Apple against and hold it harmless from any obligation imposed on Apple to pay any withholding taxes, social security, unemployment insurance, workers' compensation insurance, disability insurance or similar items, including interest and penalties thereon, in connection with any payments made to Thinking Machines by Apple pursuant to this Agreement.
- 14.5 Other Tax Implications. The purpose of development of the Products under this Agreement is to demonstrate the use of the Macintosh® personal computer to access, filter and organize information offered from powerful information servers such as Thinking Machines Connection Machine. The Products have no intrinsic value as an item, other than for test and evaluation purposes. As such, no value added, sales, use or other taxes have been assessed or are anticipated to be required as a result of the services performed under this Agreement. To the extent any such

taxes are ultimately assessed or otherwise required as a result of the services, each party will provide assistance to the other in discharging the claim.

- 14.6 Insurance. Each party will maintain insurance to protect itself from claims: (i) by its employees, agents and subcontractors under workers' compensation and state disability acts; (ii) for damages because of bodily injury, sickness, disease or death of its employees or of any other person that arise out of any negligent act or omission or willful misconduct of it or its employees, agents or subcontractors; and (iii) for damages because of injury to or destruction of tangible property including loss of use resulting therefrom that arise out of any negligent act or omission or willful misconduct of it or its employees, agents or subcontractors. Each party will insure all property of the other party in its possession or control, including but not limited to any loan equipment, against all loss and damage and will reimburse the other party for any such loss or damage.
- 14.7 Assignment. The rights and liabilities of the parties hereto will bind and inure to the benefit of their respective successors, executors and administrators, as the case may be; provided that, as Apple has specifically contracted for Thinking Machines's services, Thinking Machines may not assign or delegate its obligations under this Agreement either in whole or in part, without the prior written consent of Apple. Any attempted assignment in violation of the provisions of this Section 14.7 will be void.
- 14.8 Equitable Relief. Because each party will have access to and become acquainted with confidential and proprietary information of the other, the unauthorized use or disclosure of which would cause irreparable harm and significant injury which would be difficult to ascertain and which would not be compensable by damages alone, each party will have the right to enforce this Agreement and any of its provisions by injunction or other equitable relief without prejudice to any other rights and remedies that it may have for the other party's breach of this Agreement.
- 14.9 Applicable Law. This Agreement shall be governed by and construed in accordance with the laws of the State of California, U.S.A., except that body of California law concerning conflicts of law. Any litigation or other dispute resolution between the parties relating to this Agreement shall take place in California.
- 14.10 Severability. If for any reason a court of competent jurisdiction finds any provision of this Agreement, or portion thereof, to be unenforceable, that provision of the Agreement shall be enforced to the maximum extent permissible so as to effect the intent of the parties, and the remainder of this Agreement shall continue in full force and effect.
- 14.11 Notices. All notices required or permitted under this Agreement shall be in writing, reference this Agreement and be deemed given when: (i) delivered personally; (ii) when sent by confirmed telex or facsimile; (iii) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid; or (iv) one (1) day after deposit with a commercial overnight carrier, with written verification of receipt. All communications will be sent to the addresses set forth below. Either party may change its address by giving notice pursuant to this Section 14.11.

Apple:
Charles Bedard
Project Manager
Apple Computer, Inc.
20525 Mariani Avenue MS 76-2D
Cupertino, California 95014

Thinking Machines:
Brewster Kahle
Project Leader
Thinking Machines Corp.
245 First St.
Cambridge, MA 02142

With a copy to Apple's Law
Dept. at the same address,
Mail Stop 38-I

- 14.12 No Waiver.** Failure by either party to enforce any provision of this Agreement shall not be deemed a waiver of future enforcement of that or any other provision.
- 14.13 No Rights in Third Parties.** This Agreement is made for the benefit of Thinking Machines and Apple and their respective subsidiaries and affiliates, if any, and not for the benefit of any third parties.
- 14.14 Counterparts.** This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but collectively shall constitute but one and the same instrument.
- 14.15 Headings and References.** The headings and captions used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement.
- 14.16 Construction.** This Agreement has been negotiated by the parties and their respective counsel. This Agreement will be fairly interpreted in accordance with its terms and without any strict construction in favor of or against either party.
- 14.17 Complete Agreement.** This Agreement, including all Exhibits, constitutes the entire agreement between the parties with respect to the subject matter hereof, and supersedes and replaces all prior or contemporaneous understandings or agreements, written or oral, regarding such subject matter. No amendment to or modification of this Agreement shall be binding unless in writing and signed by a duly authorized representative of both parties. To the extent any terms and conditions of this Agreement conflict with the terms and conditions of any invoice, purchase order or purchase order acknowledgement placed hereunder, the terms and conditions of this Agreement shall govern and control.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized representatives at Cupertino, California:.

Apple:
Apple Computer, Inc.

Thinking Machines:
Thinking Machines, Inc.

By: [Signature]

By: [Signature]

Name: David Nagel

Name: John F. Mucci

Title: Director, User Technologies

Title: Vice President

EXHIBIT A
PROJECT PLAN

- **December 1, 1989:**
 - Customer and concept trial site identified;
 - Implementation plan and detailed timeline completed;
 - First draft of WAIS/Workstation protocol specification.
- **January 15, 1990:**
 - Prototype of Human Interface demonstrated.
- **March 15, 1990:**
 - Interfaces between WAIS/Workstation for concept trial agreed upon and documented;
 - Specific customer site selected;
 - Communications requirements for customer site identified;
 - Integration of components begins.
- **May 1, 1990:**
 - First integrated prototype operational on Apple and/or Thinking Machines premises;
 - Concept Trial required equipment delivered and operational on customer site;
 - Required communications at customer site operational.
- **June 15, 1990:**
 - Concept Trial demonstration begins at customer site.
- **July 30, 1990:**
 - Evaluation report on Concept Trial and recommendations for further work if appropriate.

EXHIBIT B

OK Mangel
12/4/89

JOINT PRODUCTS

MACINTOSH COMPUTER

- Protocol specification and implementation software including:
 - Transport protocols as developed specifically for concept trial;
 - Workstation/WAIS communications;
 - Information structures as exchanged between WAIS and workstations.

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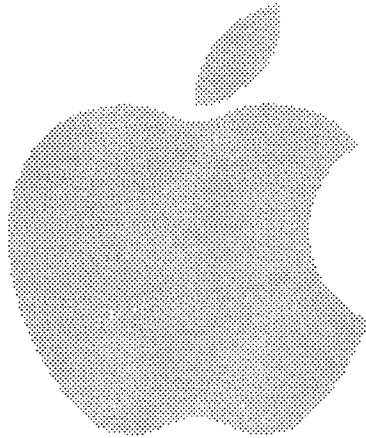
MACINTOSH
COMPUTERS

- Specification and implementation software for any novel information retrieval mechanisms executing on workstations.

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MACINTOSH COMPUTERS

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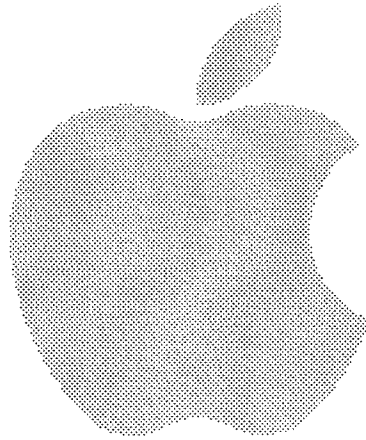
Apple Computer, Inc.

EXHIBIT C

APPLE PRODUCTS

- User Interface components developed during the course of this project including:
 - Visual Look and Feel;
 - Software used to implement the interface; *MACINTOSH COMPUTER*
 - Any and all protocols used internally to the *workstation* to create the user interface. *12/4/89*

- Local information retrieval mechanisms including:
 - Local agent software for processing raw information;
 - Local information structuring concepts and software;
 - Local information searching and organizing concepts and software.



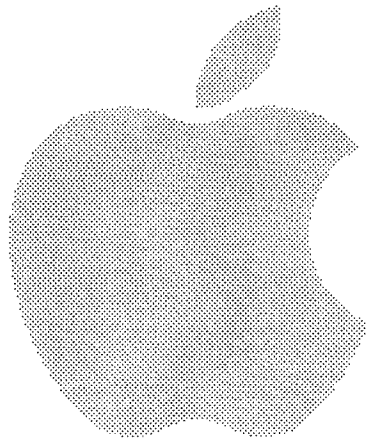
Apple Computer, Inc.

EXHIBIT D

THINKING MACHINES PRODUCTS

- Any software developed by Thinking Machines to run on a Unix system or Connection Machines.
- Any filtering and profiling software developed by Thinking Machines to process raw text that will run on a Unix system or the Connection Machine.
- Any filters and profiles developed by Thinking Machines to assist users in setting up queries.

by THINKING MACHINES original 12/4/89



Apple Computer, Inc.

EXHIBIT E

CONCEPT TRIAL

Customer Site Prototype and Demonstration

What: The demonstration will show average computer users accessing their local files, their company files, and remote servers in one environment giving a seamless introduction to both content based access to local files, and the power of remote servers.

Who: The target of the demonstration – and users and developers within each participating company. The demonstration will be successful if each company has a further understanding of their part of the information industry and, if we make this public, the media gives us a favorable write-up.

When: June 1990 or soon thereafter. All players have pieces that could be assembled into a working system now. A demonstration of this sort does not require production code, but it should be tested by many users before the demonstration. A development period of 6 months and a testing period of 2 months should give ample time for the development of a superior user interface.

Where: An Apple customer site to be determined during the course of the project.

By Whom: The demonstration should be centered around users getting things done with the system. This must be staged carefully, but we will gain credibility if real users are trying the system.

Apple Computer, Inc.

EXHIBIT F
LOANED EQUIPMENT

I. Loaned by Apple to Thinking Machines:

- 2 (or more as required) Macintosh II computers to be used by Brewster Kahle for the development of required workstation protocol and information retrieval software and for the storage and processing of test data.
- 1 (or more as required) Macintosh computers to be used as communications gateways for access to the networks which are providing the information to be used for testing the concept trial.

II. Loaned by Thinking Machines to Apple:

- Access to a Connection Machine, either locally or remote, for the purpose of developing and testing software for the concept trial.

Apple Computer, Inc.

December 5, 1989

To: Larry Tesler

From: Charlie Bedard

Cc: Dave Nagel

Re: Adjustment to Apple/TMC schedule

Because of the time spent preparing the contract and getting approvals, some of the scheduled milestones need to be revised. Thinking Machines and Brewster Kahle are responsible for most of the work needed to meet these dates. They are prepared to commit to these aggressive dates. The major Apple work is on the user interface. This work has been re-scheduled to February from its original planned January date. The HIG folks believe that this new date is reasonable.

As always, as the project proceeds, milestones will be updated to reflect actual progress. The new plan is:

- **January 1, 1990:**

- Customer for concept trial identified;
- Implementation plan and detailed timeline completed;
- First draft of WAIS/Workstation protocol specification.

- **February 15, 1990:**

- Prototype of Human Interface demonstrated.

- **March 15, 1990:**

- Interfaces between WAIS/Workstation for concept trial agreed upon and documented;
- Specific customer site selected;
- Communications requirements for customer site identified;
- Integration of components begins.

- **May 1, 1990:**

- First integrated prototype operational on Apple and/or Thinking Machines premises;
- Concept Trial required equipment delivered and operational on customer site;
- Required communications at customer site operational.

- **June 15, 1990:**

- Concept Trial demonstration begins at customer site.

- July 30, 1990:

- Evaluation report on Concept Trial and recommendations for further work if appropriate.

A handwritten signature in cursive script, appearing to read "Charlie", with a horizontal line drawn underneath the name.

Charlie Bedard

John Mucci
Thinking Machines Corporation
245 First Street
Cambridge, MA 02142-1214

Dear John:

Enclosed is Thinking Machines' copy of the WAIS Project Research and Development agreement. It has been signed by both parties.

As agreed verbally and through E-mail, Apple made some minor changes. Those changes have been written in to both copies of the contract and approved by Apple. Those changes are:

- In Exhibits B and C, change "workstation" to "Macintosh Computer"
- In Exhibit D, add "by Thinking Machines" so that the line would now read: "Any filtering and profiling software developed by Thinking Machines to process raw text ...".

Receipt of this contract and accompanying letter confirms joint agreement of the contract and the written-in changes. If Thinking Machines determines that they require further changes, please return your contract copy and this letter. Thank you.

Sincerely,

A handwritten signature in cursive script, reading "Charlie Bedard".

Charlie Bedard
Project Leader